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THE TMI COPPER WALL • EXPLORATORY RESEARCH

by Ross Dunseath, PhD, TMI Research Coordinator

Ross is an electrical engineer who has been involved in consciousness and physiological monitoring research since his undergrad days at the Experiential Learning Lab at Duke University. He continued his education at Duke in both engineering and psi research, earning a PhD in electrical engineering in 1992. During that time, he was involved in the design and construction of instrumentation for neurofeedback, heart monitoring, and the detection of physiological correlates of psi phenomena.

He next worked with researchers at the University of North Carolina, designing and constructing high-density EEG data acquisition systems, with applications in simultaneous fMRI and EEG imaging. In 2010 he joined the staff at the Division of Perceptual Studies at the University of Virginia where he is the co-director of the Westphal Neuroimaging Lab and is engaged in physiological studies of psi phenomena.

TMI presents a great opportunity for research in consciousness and human potentials, and Ross is busy upgrading the technical foundation in the labs for launching all kinds of studies.

As reported in previous research update blogs, the TMI research team has constructed a facility at our Roberts Mountain Retreat (RMR) lab that is similar to the Copper Wall Room used by Elmer Green and his research team at the Menninger Institute. The copper wall design facilitates the measurement of electric fields surrounding the body, and Green reported observations of anomalously high electric fields surrounding some exceptional participants when they engaged in healing or meditative activities.

We set out to replicate Green's findings, using the same instrumentation (an electrometer), in electrical contact with the body. This was an exploratory effort, often referred to in the research world as a pilot study.

What we observed was rather phenomenal, certainly sufficient to launch a formal study.

Twenty volunteers visited the copper wall facility from June through August 2019, engaging in various healing or energy visualization activities while sitting in a chair or standing on the insulated glass floor of the booth and connected to the electrometer via an electrically conductive wrist (or ankle) strap or earlobe clip. The body potential (voltage) relative to earth ground as measured by the electrometer was recorded.

Two aspects of this measurement were of interest—a static (or very slowly varying) direct current (DC) voltage, and a dynamic alternating current (AC) voltage. The DC voltage was read visually from the meter display and recorded by hand while the AC voltage was digitally recorded after filtering for DC offset and 60Hz powerline noise. Initially, the AC voltage was of greatest interest based on Green's reports of large voltage pulses, but the behavior of DC voltages measured on a couple of the volunteers was rather spectacular and led to new avenues for a study protocol and possible future applications.

We also discovered how sensitive the electrometer measurement is to leakage of charge from the body. Initially the study volunteers were sitting in a non-metallic wicker chair, but it became evident that DC measurement amplitudes were significantly reduced in this configuration compared to quietly standing in the booth with the chair removed. Because of this, about half of the study volunteers did not have fully accurate measurements, i.e., they were most likely too low. If you were an early volunteer in the effort (in June 2019) please come back when we run the study (starting soon!) so we can obtain improved accuracy in your biofield readings.

When Edd Edwards and his healer associate Lihi Introp visited in early July, we observed some fascinating phenomena. Edd has been involved in "energy" manipulation since he was a small child, and has participated in several laboratory studies throughout his life. He was able to demonstrate raising his DC voltage to high levels on a routine basis, often above 20 volts upwards to a maximum of 70 volts. Lihi was able to show this effect as well, reaching 50 volts. These voltage levels were observed after "shorting" a finger to ground (briefly touching a ground wire) so they were starting from a zero potential. Lihi raised her voltage at a steady rate of about 1 volt per minute. Edd's rates varied from 1 to 4 volts per minute. Both Edd and Lihi reported a tingling sensation when they reached high voltage levels.

There is no known physiological explanation for this effect (electrophysiology is normally limited to less than 1 volt). Because of this, great care must be taken to control for mundane explanations such as environmental static charge accumulation. We controlled for this in several ways:

1. The participant was standing quietly on an insulated platform, so charge accumulation from shuffling shoes on a carpet or rubbing clothing fabrics was minimal.

2. The measurement was taken after briefly grounding the participant, so any charge already present was dumped to ground.

3. The humidity in the RMR lab is kept at 50% (sometimes higher, never lower) which minimizes environmental static charge buildup.

4. Any observers nearby were not moving around or touching the participant.

In addition to these controls, we also ran other sensors simultaneously with the electrometer readings. When Edd and Lihi reached high voltages, a random event generator (REG, aka RNG, a device that generates a stream of random bits) was observed to become significantly less random, which is considered to be a psychokinetic (mind affecting matter) effect.

We also observed physical healing in two target "clients," one present in the RMR lab, and the second 20 miles away. Both healers participated in the healing effort and were in voice contact with the remote client via speakerphone. Impressive physical effects on the clients were reported and observed, including obvious reductions in skin sores and discoloration. Other physical effects on the clients included small muscle spasms and the perception of a pushing or pulling force on the body.

It did not appear that high DC measurements were a necessary condition for RNG deviations or healing as significant reduction in randomness in the RNG was observed in seven of nine sessions with Edd and Lihi but not consistently large DC body voltages. (In contrast, the RNG remained within the two-standard deviation limit ((i.e., random behavior as expected)) during

nine of eleven baseline periods when Edd and Lihi were not present). However, the DC body field measurement technique was inconsistent as we explored best practices, so it's not clear if they were always generating high voltages when engaging in healing or energy practices. There were two other sensors running during this effort, a magnetometer and a cosmic ray detector often used in psychokinetic studies. The data from these devices is still being analyzed.

Elmer Green's copper wall research team reported both high DC levels and the sporadic appearance of high voltage surges or pulses (the AC part) in some exceptional participants, especially healers. We observed voltage pulses as well, but only in the range of a few volts. This may be due to the high pass filtering that was used to enable digital recording (our recording device could not handle DC voltages). We are now upgrading the instrumentation to enable recording of DC and very low frequencies and hope to have that running by the time this report is posted.

Once the proper measurement technique was clarified thanks to Edd and Lihi (i.e., no chair in the copper wall booth), it became apparent that DC and slowly varying potentials can be active for other individuals engaged in energy or healing activities as well, even if not at sky-high values. For example, a TMI staffer and a program participant have both demonstrated sudden doubling and tripling of voltage readings under controlled conditions when they were engaged in exercises using a resonant energy balloon (REBAL) or healing intentions.

The DC amplitudes were at single-digit volt levels, but still higher than classic electrophysiology allows. Skin potential (electrodermograph) is the most relevant electrophysiological measure, but it is measured in millivolts (thousandths of a volt), not volts. The measurement configuration (number of electrical contacts, location, references, ground, etc.) may offer some clue to what is being observed, and there will be more discussion on this aspect in future TMI research reports or publications.

The intention now is to run volunteers in a simple protocol of rest then task for twenty minutes (or until a steady potential is reached if baseline is still rising after twenty minutes) while standing quietly in the copper wall booth connected to the electrometer. "Task" will be left to the participant, but energy or healing visualization/intention seems to work best.

We will accumulate statistics on voltage and RNG measures as well as task types. Video recording will be used to help control for body movement and to obtain possible visual confirmation of electric field effects via biofield visualization

We're interested in learning about the distribution of body voltages with respect to population and energy/healing practices, and pursuing the possibility of a feedback application that could facilitate the learning of biofield manipulation.